

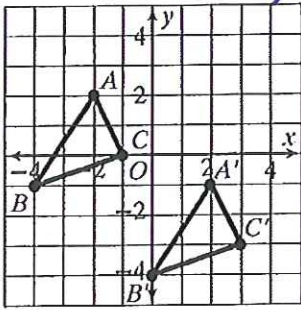
Key

### Practice 9-8

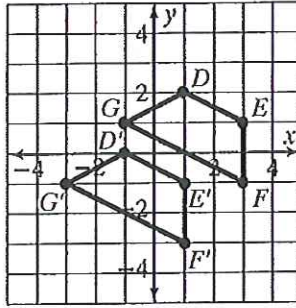
Translations

Write a rule to describe each translation.

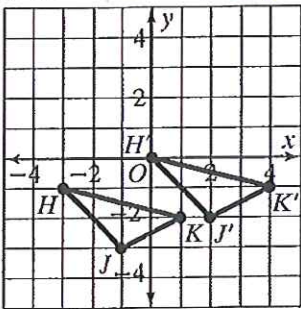
1.  $(x, y) \rightarrow (x+4, y+3)$



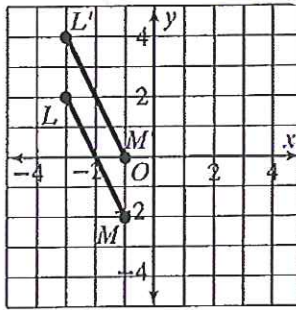
2.  $(x, y) \rightarrow (x+2, y+2)$



3.  $(x, y) \rightarrow (x+3, y+1)$

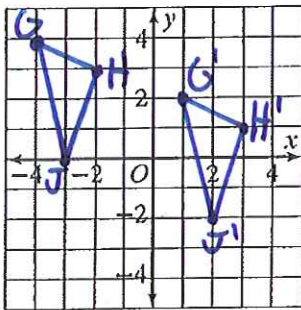


4.  $(x, y) \rightarrow (x, y+2)$

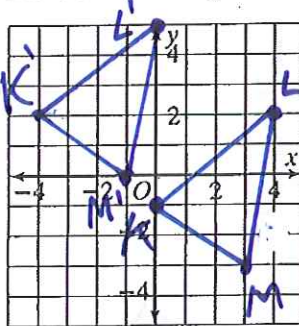


The vertices of a triangle and a translation are given. Graph each triangle and its image.

5.  $G(-4, 4), H(-2, 3), J(-3, 0)$ ; right 5 and down 2



6.  $K(0, -1), L(4, 2), M(3, -3)$ ; left 4 units and up 3 units



A point and its image after a translation are given. Write a rule to describe the translation.

7.  $A(9, -4), A'(2, -1)$   $(x, y) \rightarrow (x+7, y+3)$

8.  $B(-3, 5), B'(-5, -3)$   $(x, y) \rightarrow (x+2, y+8)$

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key

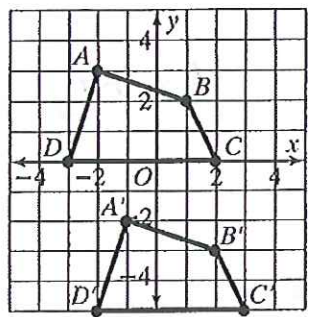
## Reteaching 9-8

Translations

Write a rule to describe the translation.

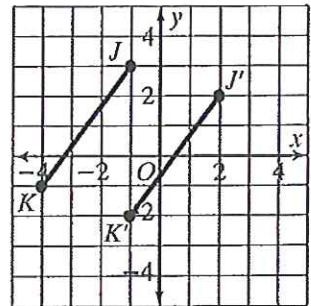
Point  $A$  has coordinates  $(-2, 3)$ . Its image  $A'$  has coordinates  $(-1, -2)$ . To move from  $A$  to  $A'$  on the graph, we go right one unit  $(+1)$  and down 5 units  $(-5)$ . So the rule is  $(x, y) \rightarrow (x + 1, y - 5)$ . We could also subtract coordinates:

$x: -1 - (-2) = -1 + 2 = 1$   
 $y: -2 - 3 = -2 + (-3) = -5$

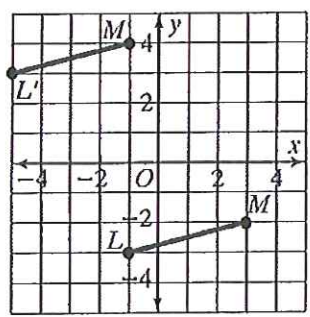


Write a rule to describe each translation.

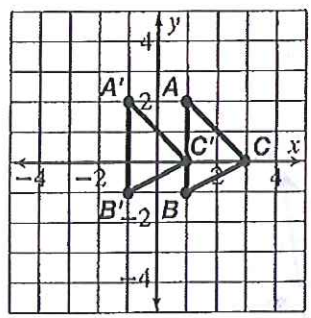
1.  $(x, y) \rightarrow (x+3, y+1)$



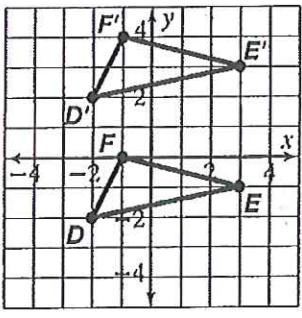
2.  $(x, y) \rightarrow (x-4, y+6)$



3.  $(x, y) \rightarrow (x+2, y)$



4.  $(x, y) \rightarrow (x, y+4)$



5. The translation that takes  $A(8, -6)$  to  $A'(9, -3)$

$(x, y) \rightarrow (x+1, y+3)$

6. The translation that takes  $B(2, -10)$  to  $B'(-7, -12)$

$(x, y) \rightarrow (x-9, y-2)$

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